

0-4 DOT PLOTS and DISTRIBUTIONS

S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

S.ID.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

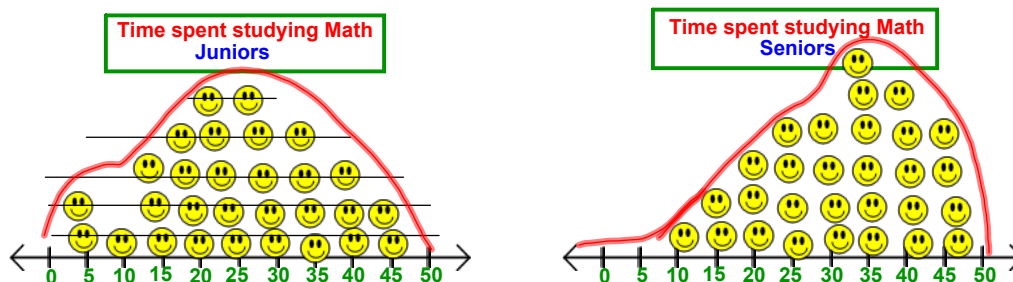
DOT PLOT - A data representation that uses a number line and x's, dots, or other symbols to show DISTRIBUTION.

EXAMPLE 1

Mrs. Kalikimaka asked her junior and senior students how many minutes each of them spent studying math in one day, rounded to the nearest five minutes. The results are shown below. Make a dot plot showing the data for juniors and a dot plot showing the data for seniors.

Time Spent Studying Math (min)	Frequency (Juniors)	Frequency (Seniors)
5	2	0
10	1	1
15	3	2
20	4	3
25	5	4
30	5	4
35	4	6
40	3	5
45	2	4

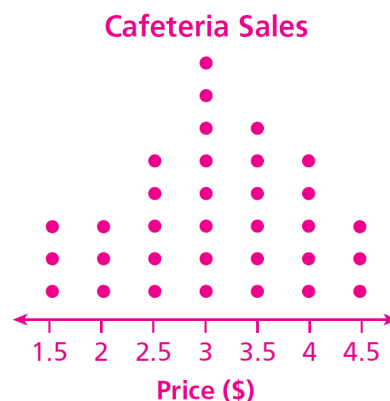
For each student, place a dot above the number line for the number of minutes he or she spent studying.



EXAMPLE 2

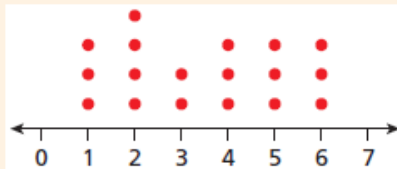
The cafeteria offers items at six different prices. John counted how many items were sold at each price for one week. Make a dot plot of the data.

Price (\$)	1.50	2.00	2.50	3.00	3.50	4.00	4.50
Items	3	3	5	8	6	5	3



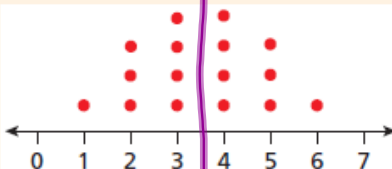
Types of Distributions

UNIFORM DISTRIBUTION



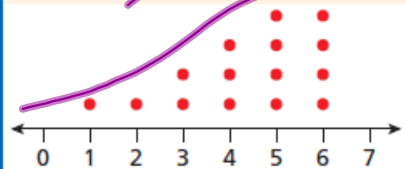
In a **uniform distribution**, all data points have an approximately equal frequency.

SYMMETRIC DISTRIBUTION



In a **symmetric distribution**, a vertical line can be drawn and the result is a graph divided in two parts that are approximate mirror images of each other.

SKewed DISTRIBUTION



In a **skewed distribution**, the data is not uniform or symmetric. The data may be skewed to the right or skewed to the left.

EXAMPLE 3

Shapes of Data Distributions

The data table shows the number of miles run by members of two track teams during one day. Make a dot plot and determine the type of distribution of each team. Explain what the distribution means for each.

Make the dot plots for the data.

Miles	3	3.5	4	4.5	5	5.5	6
Team A	2	3	4	4	3	2	0
Team B	1	2	2	3	4	6	5

